

REMARKS

This Amendment, submitted in response to the Office Action dated July 12, 2004, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 2, 3, 5-14, 16 and 17 are all the claims pending in the application.

I. Claim Rejections under 35 U.S.C. § 103 as being unpatentable over Newman

Claims 9 and 10 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Newman et al. (U.S. Patent No. 5,420,441).

Claims 9 and 16 have been amended to recite “detecting whether noise occurs in the form of a line in the vertical scanning direction in the low-density region of an image reproduced from the image inspection signal, and judging that stray light has occurred if the noise occurs and that stray light has not occurred if the noise does not occur, based on the detection of the noise.” See for example, page 7 of the specification. The newly added claim language is not disclosed in Newman. Consequently, claims 9 and 16 and their dependent claims should be deemed patentable.

In response to Applicants’ arguments in the previously filed amendment, the Examiner states that the features upon which Applicant relies, analyzing contrast difference, is not recited in the rejected claims.

Claim 9 recites:

“preparing a storable fluorescent inspection sheet that has stored and recorded a radiation inspection image which has a density pattern in which one or more low-density and high-density regions having a **contrast difference** of at

least 1:50 are arrayed in said horizontal scanning direction."

Claim 10 recites:

"A storable fluorescent inspection sheet having stored and recorded a radiation inspection image that has a density pattern in which one or more low-density and high-density regions having a **contrast difference** of at least 1:50 are arrayed in a horizontal scanning direction."

Therefore, a contrast difference is disclosed in claim 9 and 10. The Examiner cited the dynamic range of Newman for teaching the contrast range of claims 9 and 10. In particular, the Examiner states on page 3, first full paragraph of the Office Action "that it is desirable for the method to provide **analysis** of the exposure latitude and photometric response linearly over the 10,000:1 storage phosphor dynamic range...Therefore, it would be obvious to one of ordinary skill in the art to expose the inspection sheet of Newman with a 1:10,000 contrast difference test target and to **analyze** the 10,000:1 contrast difference radiation inspection image stored therein, in order to determine scanner performance over the 10,000:1 storage phosphor dynamic range."

Therefore, Newman analyzes a dynamic range and not a contrast difference. Since Newman analyzes a dynamic range and not a contrast difference, Newman does not disclose the contrast difference of claims 9 and 10.

Applicant respectfully submits that Applicant was not arguing that claims 9 and 10 include the limitation of analyzing a contrast difference, but the disparity of high and low regions based on contrast difference. A dynamic range does not teach the contrast difference of claims 9 and 10.

The Examiner further asserts that in col. 8, lines 11 and 12, the corner points are located by a differential contrast edge detection algorithm. However, merely because the corner points

are located by a contrast edge detection algorithm does not mean that low-density and high-density regions are disclosed or that low-density and high-density regions having a contrast difference of 1:50 are arrayed in the horizontal scanning direction.

In addition, the Examiner asserts that col. 10, line 44 to col. 11, lines 34 discloses that a flare light is a collector 80 artifact which reduces the contrast of an image due to unwanted backscatter entering the collector 80 from neighboring bright regions. However, this (seventh element; see col. 1, line 60) appears to be different from the exposure latitude and photometric response linearity over the 10,000:1 dynamic range of the storage phosphor (first element; see col. 1, lines 50-53) initially cited by the Examiner.

Regardless, there is no indication of low-density and high-density regions having a contrast difference of at least 1:50 arrayed in a horizontal scanning direction.

In Newman, a flare light ratio is measured by averaging a dark signal value of region 6, which is surrounded by bright regions, with region 4. This results in a ratio of the two signal levels which gives the percentage of flare light susceptibility for high contrast regions. Col. 10, lines 43-53. Therefore, this aspect of Newman pertains to flare effects rather than contrast difference.

An algorithm is used to calculate corners and edges in a scanned image using a histogram threshold method. The reader 10 assigns count values corresponding to beam transmission. The count value is an increasing function of the transmission and a decreasing function of attenuation. Col. 10, line 66 to col. 11, line 12. Lines 1, 2 and 3 of Fig. 5, which define the three orientation corner points are comprised of six lead foil layers and have the maximum absorption signal in the scanned target image. Col. 11, lines 13-34 describe how the corner points are

detected. What is not clear is the relative absorption of the adjoining space for corner detection. The corner detection determines a point where consecutive lines exceed a threshold but does not specify the magnitude thereof. Therefore, corner detection need not be indicated by a 1:50 contrast as the Examiner appears to suggest.

It is unclear where a contrast difference of at least 1:50 are arrayed in the horizontal scanning direction is disclosed. The count values of 3200, 2200, 1200 and 200 correspond to results in a perfectly calibrated machine, but does not suggest that a pattern of high and low density regions of a certain contrast difference provides the calibration.

The Examiner asserts that Newman Figs. 5 and 11 disclose low-density and high-density regions arrayed in both the slow and fast scanning directions. Fig. 5 discloses guide points 1, 2, and 3, clear region 4, a region 5 contain exposure latitude information, opaque region 6, bar targets in region 7, fast scan 8 and slow scan 9. Therefore, there does not appear to be an indication of low-density and high-density regions with the contrast as claimed.

For at least these reasons, claims 9 and 10 should be deemed patentable.

II. Claim Rejections under 35 U.S.C. § 103 as being unpatentable over Newman in view of Farrokhnia

Claims 2, 3, 5, 6, 8, 12-14, 16 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Newman et al. in view of Farrokhnia et al. (U.S. Patent No. 6,231,231).

Claims 16 and 17

In response to Applicant's argument that Farrokhnia does not examine every point along a line between opposite edges, the Examiner asserts that in Newman, geometric linearity of the scan is the measure of the degree of geometric distortion, i.e. unwanted enlarging or

demagnification of any or all parts of the scanned image. However, Farrokhnia and not Newman, was cited by the Examiner for teaching the boundary line between low-density and high-density regions extending between opposite edges of a sheet. In particular, Farrokhnia was cited for teaching inclining the straight boundary lines between a plurality of low-density and high-density regions with respect to the horizontal scanning direction in order to determine both horizontal and vertical MTF in an x-ray system. See paragraph bridging pages 4 and 5 in present Office Action.

However, in determining MTF, one point and only a few neighboring points thereof are required to be examined with respect to either dimension. Therefore, if the inclined straight boundary line between a plurality of low-density and high-density regions of Farrokhnia were combined with Newman, only a part of the sheet of Newman would be scanned and the scanning would not extend in a vertical or horizontal direction to opposite edges.

Claim 2

The Examiner states that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.

Claim 2 recites that the boundary line is between a low-density region and a high-density region. Coupon edges 1410, which are the boundary lines cited by the Examiner, are not between a low density region 385 and a high-density region 380. Therefore, regardless of whether the combination of Farrokhnia with Newman is obvious, the combination would still fail to teach the elements of claim 2.

Moreover, the combination of Farrokhnia with Newman is not obvious for the reasons set forth in the previously filed Amendment.

Claim 3

The Examiner asserts that one cannot show nonobviousness by attacking the references individually. The Examiner cites Farrohknia for teaching two-high density and one low-density region arrayed in a horizontal scanning direction. There is no indication of two-high density and one low-density region arrayed in a horizontal scanning direction in Farrohknia. Therefore, regardless of whether the combination of Farrokhnia with Newman is obvious, the combination of Farrokhnia with Newman would not result in the claimed invention. Moreover, the combination of Farrokhnia with Newman is not obvious for the reasons set forth with respect to claim 2.

III. Allowable Subject Matter

The Examiner has indicated that claim 11 is allowed. The Examiner has indicated that claim 7 contains allowable subject matter and would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. At the present time, applicant has not rewritten claim 7 in independent form since Applicant believes claim 7 will be deemed patentable by virtue of its dependency to claim 17 for the reasons set forth above.

IV. Allowable Subject Matter


In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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